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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,587	12/09/2004	Tiziano Dall'Occo	FE 6023 (US)	1322

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EXAMINER	
BROWN, JENNINE M	
ART UNIT	**PAPER NUMBER**
1755	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/517,587	DALL'OCCO ET AL.	
	Examiner	Art Unit	
	Jennine M. Brown	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/9/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims Analysis

Any optional elements will be deemed as not present therefore, not further limiting and any element claimed as "can" do something will be deemed as being optional and therefore not present.

Claim Objections

Claim 14 is objected to because of the following informalities: diisobutylaluminum is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the actual compounds which are used which contain Mg, Ti, Cl and OR, particularly the Cl and OR group have dangling valences which would be unstable. The elemental components themselves when combined would not necessarily produce a catalytic compound. It is unclear as to what the metes and bounds applicant means to claim by only enumerating the element rather than the compounds or formulations for which the actual catalyst is comprised.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5 and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Menconi, et al. (WO 00/58368 A1) in view of Zambon, et al. (US 6451726 B1).

Menconi, et al. disclose and claim a catalyst comprising titanium, magnesium, chlorine and a carboxylate with overlapping ranges of ratios and a method of polymerizing olefins using said catalyst (page 53, line 1 – page 60, line 14) wherein the titanium disclosed is at least 80% in the 3+ valence state (abstract; page 6, lines 3-7). Menconi, et al. fail to disclose a diether group as the electron donative compound. Zambon, et al. cures the deficiency of Menconi, et al. by disclosing a similar composition having the same ratio of Ti/Mg wherein the electron donative compound may be either a 1,2-diether or 1,3-diether compound. Zambon, et al. disclose a catalyst component

comprising MgX_2 (col. 2, l. 52; col. 3, l. 3-5, 24-27), $Ti(OR)_{n-y}X_y$ (wherein X is Cl and y is 1;col. 2, l. 35-33), diethers (col. 4, l. 8-col. 7, l. 4) and alkyl aluminum compounds (col. 7, l. 45-col. 8, l. 3) having a Ti/Mg ratio of 0.01-3, preferably 0.1-2.5 (col. 9, l. 17-18). In the diether, the R^{IV} groups have the same number of carbon atoms (col. 4, l. 34-37) as are those claimed in the instant claims and R^{I} and R^{II} may form an cycloalkyl, aryl, aklyaryl or arylalkyl compound (col. 4, l. 21-22, 33-34) or are linear or branched alkyls as are those claimed in the instant claims. It would have been obvious to one of ordinary skill in the art to modify the catalyst composition of Menconi, et al. to use the diether compounds of Zambon, et al. rather than the carboxylate compound because the carboxylate is more likely to have unwanted side reactions due to the active hydrogens on the carboxylate compound.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Menconi, et al. (WO 00/58368 A1) in view of Zambon, et al. (US 6451726 B1) as applied to claims 1-5 above, and further in view of Kao, et al. (US 5200502).

Zambon, et al. disclose a catalyst component, catalyst and process for the polymerization of olefins as disclosed herein above. Zambon, et al. do not specifically disclose a 1,2-diether species. Kao, et al. cures the deficiency of Zambon, et al. by disclosing that 1,2-diethers are used in Ziegler Natta catalyst compositions (col. 2, l. 5-30). It would have been obvious to one of ordinary skill in the art to substitute a 1,3-diether for that of a 1,2-diether. Kao, et al. disclose that the 1,2-diether is used as a

deactivation agent in the catalyst preparation but it would have been obvious to one of ordinary skill in the art to synthesize the composition and then add the co-catalyst separately to re-activate the catalyst composition so that catalyst is not poisoned prematurely.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending US Application 10/506176. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a process for the co-polymerization of olefins wherein the olefin may be ethylene or propylene or butene

wherein a catalyst comprising Mg, Ti, aluminum alkyl and diether compound are claimed. A prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." See MPEP §2144 and §2144.08, paragraph II.A.4.(c).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 15-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending US Application 10/503104. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a process for the polymerization of an olefin (ethylene) which is contacted with a catalyst component comprising Mg, Ti, Cl and a diether. A prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." See MPEP §2144 and §2144.08, paragraph II.A.4.(c).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of copending US Application 10/493636. Although the conflicting claims are not identical, they are not patentably distinct from each other because each of the components claimed in the instant application are claimed by their full formulaic form in the copending application. The Ti adduct is found in the metallocene of the copending application, the OR, Cl and Mg can be found in the magnesium compound $MgCl_2$ m(ROH) adduct in the copending application. An ether electron donor is also disclosed as well as an aluminum alkyl compound. A prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." See MPEP §2144 and §2144.08, paragraph II.A.4.(c).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 15-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of copending US Application 10/471497. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a process for polymerizing ethylene with an olefin having a hydrocarbon radical with 1-12 carbon atoms in the presence of a catalyst system comprising Mg, halogen (includes Cl), ether, Ti and an aluminum compound wherein the oxidation state of titanium is less than 4+ and the weight percentages of each of the components are overlapping with the copending claims. A prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." See MPEP §2144 and §2144.08, paragraph II.A.4.(c).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-16 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15, 22-25 of copending US Application 10/362695. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst component and

method of polymerizing olefins comprising a magnesium compound, titanium compound, electron donor comprising ethers and an aluminum alkyl compound. A prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." See MPEP §2144 and §2144.08, paragraph II.A.4.(c).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of copending US Application 10/468640. Although the conflicting claims are not identical, they are not patentably distinct from each other because the catalysts comprise Mg, Ti, Cl and OR groups optionally containing heteroatoms, each have overlapping weight ratios for Ti/Mg, Cl/Ti and OR/Ti as well as having a Ti valence state wherein at least 50% are less than 4, alkylaluminum halide, which may be diethylaluminum chloride, diisobutylaluminum chloride, aluminum sesquichloride or dimethylaluminum chloride, polymerizing with one or more olefins. These catalysts seem to be exactly the same except that the OR compound in the copending case is not specified as a 1,2-diether or

a 1,3-diether compound. It would have been obvious to one of ordinary skill in the art to have determined that the compound was either an alcohol, ethers, esters or ketones as disclosed on page 1, pgh 0013 of the copending specification.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine Brown whose telephone number is (571) 272-1364. The examiner can normally be reached on M-R 9:30 A.M. to 7:30 P.M; Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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